10-1971

Pool Studies

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TWENTY-NINTH ANNUAL REPORT

PART THREE

ANDROSCOGGIN POOL

1971

INTRODUCTION. The Androscoggin Pool is that area of water situated between North Turner Bridge (Mile 49.0) and Deer Rips Dam, (Mile 33.7).

Daily tests were made at locations one, two, six and seven; stations three, four and five in the Pool were not sampled on Thursdays.

1. North Turner Bridge
2. Turner Center Bridge
3. Mile 4.25
4. Mile 2.5
5. Mile 1.0
6. Gulf Island Dam
7. Deer Rips Dam

Calculations are based on drainage area river flows at stations one and two, all other sampling locations on the average measured flow at Gulf Island Dam. Due to the very poor conditions in the Pool, a five week period, July five to August seven, was chosen for intensive study. Benthal activity was large and extensive and probably surpassed that of 1969 and 1970.

The summer season is the period from May thirty-one to September eleven inclusive. The application of conductivity measurements as rapid aid for identification of pollution deviations from a norm in the Androscoggin Pool is described at the end of this Part Three.

1. North Turner Bridge. River water entering the Pool always contains some suspended organic wastes and in large amounts at times when the flow is much above normal.

For the first time since these reports were issued, the daily average dissolved oxygen load was just sufficient to meet the requirements for the average five day biochemical loads entering the Pool during the summer season. One can imagine what the conditions would have been without the extensive reaeration at Riley and Livermore.

Daily Tyrosine-Lignia tests were made on water sampled at this location and at Deer Rips Dam in order to detect any significant change in the pollution load entering and leaving the Pool. The record for North Turner river water and the previous six years are tabulated below:

Summer Period	B.O.D.5 av.lbs/day	D.O. av.lbs/day	av. lbs/d Deficit- D.O. Surplus+
1971	71410	71690	+ 270
1970	73560	69940	- 3650
1969	91500	172240	+80740
1968	72200	141100	+68900
1967	68800	91700	+22900
1966	46800	55800	+ 9000
1965	36300	23300	-13000

The season net loss of measured B.O.D.5, during the estimated eleven day passage through the Pool was small, averaging 17150 lbs. per day, about 24% of the load entering the pool. The measured net loss of oxygen was 53000 lbs. per day which is about three times more than the measured loss of B.O.D.5, therefore, it may be assumed, that the daily benthal contribution was probably equal to 53000 minus 17000 plus all of the aeration in the Pool. The

analytical results are summarized in the following tables.

NORTH TURNER BRIDGE

Period 1971	D.O. lbs/d	D.O. ppm	B.O.D.5 lbs/d	B.O.D.5 ppm	Surplus/D.O. Deficit-D.O.
May 31-June 26	123664	6.2	102420	5.6	+21234
June 28-July 31	55120	4.5	68790	5.4	-13670
Aug. 2-Aug. 28	44316	3.8	55933	4.8	-11617
Aug. 30-Sept.11	63740	5.2	47000	4.7	+16740
Season Average	71690	4.9	71420	5.3	+ 270

DISSOLVED OXYGEN - BIOCHEMICAL OXYGEN DEMAND

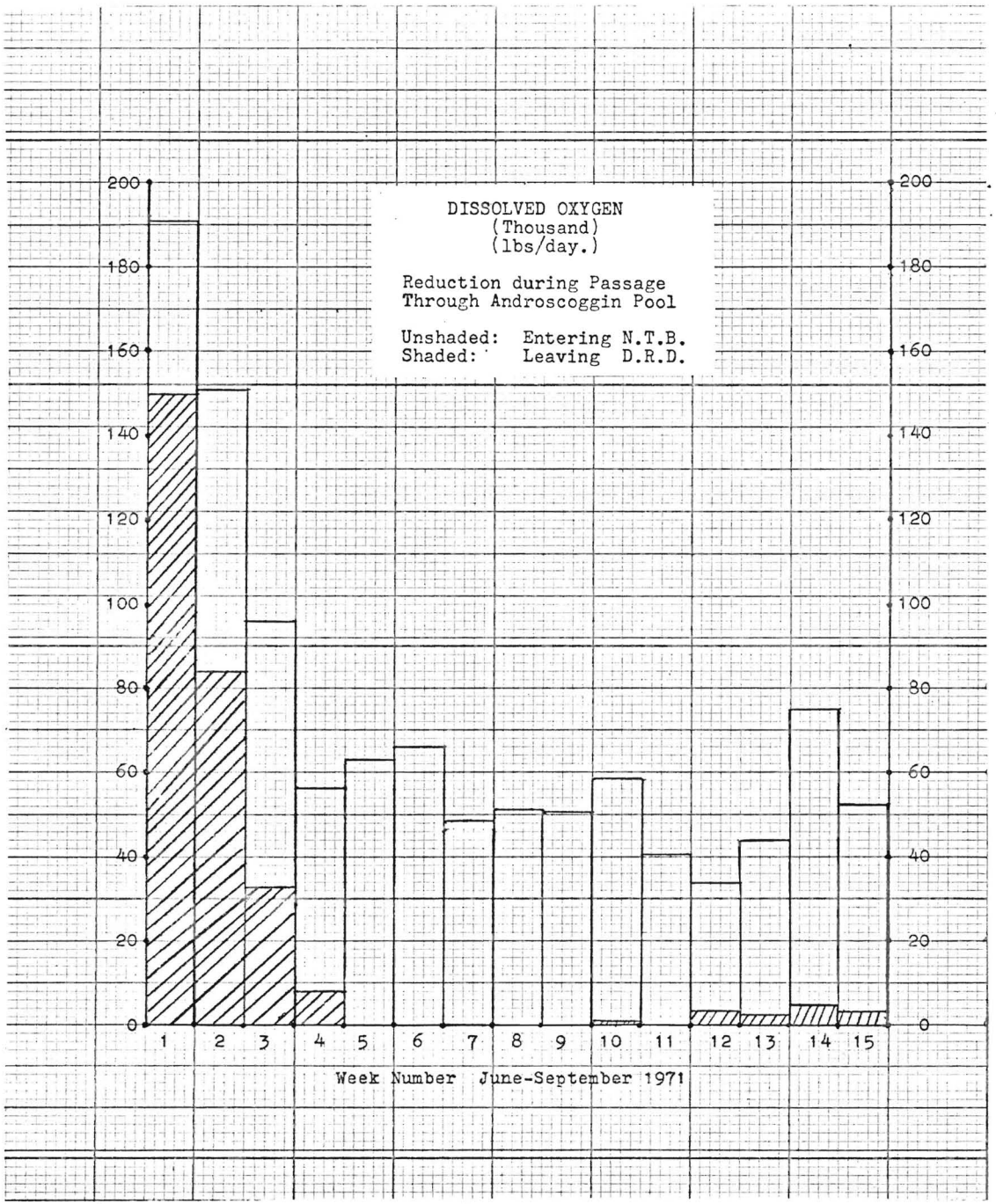
Weekly Average

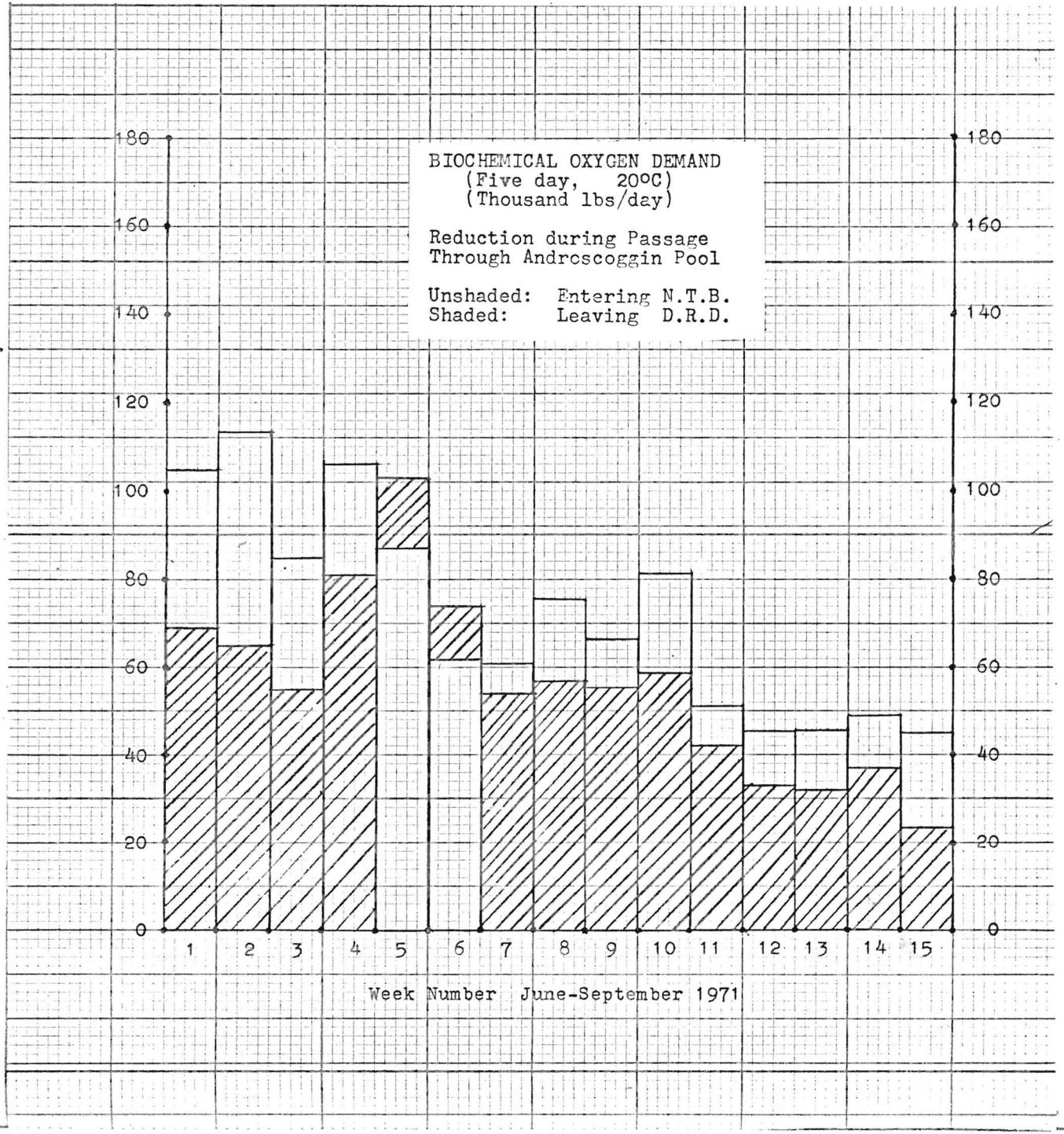
1971

NORTH TURNER BRIDGE

Week* Ending	Dissolved Oxygen ppm	Dissolved Oxygen lbs/day	B.O.D.5 ppm	B.O.D.5 lbs/day	Surplus D.O./ Deficit D.O.-
June 5	7.9	191000	4.4	105170	/85830
12	6.9	151420	5.1	113180	/38240
19	6.1	96190	5.8	85290	/10900
26	3.9	56410	7.2	106040	-56410
average	6.2	123660	5.6	102420	/21240
July 3	4.3	63260	6.2	87620	-24360
10	5.4	61970	4.6	53160	/ 8810
17	4.4	48640	5.5	61090	-12450
24	4.3	51310	6.4	75430	-24120
31	4.1	50420	5.7	66670	-16250
average	4.5	55120	5.4	68790	-13670
Aug. 7	4.1	58680	5.7	81420	-22740
14	3.7	40430	4.5	50860	-10430
21	3.3	33990	4.5	45690	-11700
28	4.2	44170	4.4	45760	- 1590
average	3.8	44320	4.8	55930	-11610
Sept. 4	5.6	75020	5.3	48780	/26240
11	4.7	52460	4.1	45220	/ 7240
average	5.2	63740	4.7	47000	/16740
Season average	4.9	71690	5.3	71420	/ 270
Sept.18	5.3	79070	5.3	78350	/ 720
25	5.9	69030	5.9	57910	/11120

*Six days/week


DISSOLVED OXYGEN
(Thousand)
(lbs/day.)
Reduction during Passage
Through Androscoggin Pool
Unshaded: Entering N.T.B.
Shaded: Leaving D.R.D.
200
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Week Number June-September 1971


BIOCHEMICAL OXYGEN DEMAND
(Five day, 20°C)
(Thousand lbs/day)
Reduction during Passage
Through Androscoggin Pool
Unshaded: Entering N.T.B.
Shaded: Leaving D.R.D.
180
160
140
120
100
80
60
40
20
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15
Week Number June-September 1971

2. Turner Center Bridge. River flows at this station include the inflows from the Nezinscot River which were slightly below normal from June 28 to September 11. The approximate inflow to the Pool is determined from the difference between the North Turner and Turner Center area drainage flows but does not allow for evaporation and seepage losses. The season's average inflow was about fifty (50) cfs.

NEZINSCOT RIVER (cfs)

Period 1971		Nezinscot "Inflow to Pool"
May 31-June 26	Estimated daily average	96 cfs/day
June 28-July 31	" " "	21 "
Aug. 2-Aug. 28	" " "	36 "
Aug. 30-Sept.11	" " "	62 "
Season average		50 cfs/day

Benthal deposits are always very active during most of the summer in the area between the two Bridges. The extent of the activity may be seen in the following statistics for the period, August two to August twenty-eight.

August 2 to August 28

Location	Dissolved Oxygen aver. lbs/d	Dissolved Oxygen ppm	B.O.D.5 aver. lbs/d	B.O.D.5 ppm
N.T.B.	44320	3.8	55930	4.8
T.C.B.	21450	1.7	41360	3.5
Change	-22870	2.1	-14570	1.3

The measured loss of dissolved oxygen averaged 22870 lbs/day, accompanied by a known loss of B.O.D.5 of 14570 lbs/day. Time of passage was about two days and the distance between the Bridges 6.4 miles. August statistics tabulated on the following page are

Estimated Benthal Contribution

N.T.B.-T.C.B. Area
1971

		Aug. 2-Aug. 28	June 1-Sept. 11
1. B.O.D.5 Entering Pool (N.T.B.)	lbs/d	55930	71420
2. B.O.D.5 Estimated Loss to T.C.B. 50%	"	27970	35710
3. B.O.D.5 Measured Loss to T.C.B.	"	14570	12620
4. B.O.D.5 Estimate minus measured	"	13400	23020
5. B.O.D.5 Leaving T.C.B.	"	41360	59390
1. D.O. Entering Pool N.T.B.	lbs/d	44320	71690
2. Aeration N.T.B. rips Estm. 1.0 ppm	"	11500	14000
3. Aeration 1000 lbs/mile Estm.	"	7000	7000
4. Nezinscotaav. D.O. estm.	"	600	800
5. TOTAL	"	63420	80890
6. D.O. total - D.O. leaving T.C.B.	"	41970	32230
7. Indicated total D.O. loss	"	41970	32230
8. Measured B.O.D.5 loss	"	14570	12620
9. Probable Benthal B.O.D.5	"	27400	19610

TURNER CENTER BRIDGE

Period 1971	D.O. lbs/d	D.O. ppm	B.O.D.5 lbs/d	B.O.D.5 ppm	N.T.B. — T.C.B. D.O. lbs/d	N.T.B. — T.C.B. B.O.D. lbs/d
May 31-June 26	103177	4.8	88931	4.6	-20577	-13489
June 28-July 31	29422	2.3	56531	4.5	-26566	-14023
Aug. 2-Aug. 28	21454	1.7	41355	3.5	-22862	-14578
Aug. 30-Sept.11	42110	3.5	43540	4.5	-21630	- 3460
Season average	48660	2.9	59390	4.1	-23320	-12620

DISSOLVED OXYGEN - BIOCHEMICAL OXYGEN DEMAND

Weekly Average

1971

TURNER CENTER BRIDGE

Week* Ending	Dissolved Oxygen ppm	Dissolved Oxygen lbs/day	B.O.D.5 ppm	B.O.D.5 lbs/day	Surplus D.O.+ Deficit D.O.-
June 5	6.9	177210	3.5	96780	+80430
12	5.9	128610	3.6	85650	+42960
19	4.7	77470	5.1	82320	- 4850
26	1.5	29410	6.0	90970	-61560
average	4.8	103180	4.6	88930	+14250
July 3	2.0	30720	6.0	88140	-57420
10	3.7	44560	2.3	27700	+16860
17	2.0	22270	4.7	51720	-29450
24	2.0	24090	5.2	62210	-38120
31	2.0	25470	4.2	52880	-27410
average	2.3	29420	4.5	56530	-27110
Aug. 7	2.4	39190	4.1	60940	-21750
14	1.6	16940	3.6	38970	-22030
21	1.2	12290	3.2	32170	-19880
28	1.6	17400	3.2	33330	-15930
average	1.7	21450	3.5	41360	-19910
Sept. 4	4.1	56500	3.8	52250	+ 4250
11	2.5	27720	3.1	34830	- 7110
average	3.5	42110	3.5	43540	- 1430
Season average	2.9	48660	4.1	59390	-10730
Sept.18	3.3	50810	3.6	53780	- 2970
25	4.1	47340	3.1	35740	+11600

*Six days/week

the basis for estimating the probable benthal B.O.D.5 diffused into the area, as about 27000 lbs. per day. Assuming the diffusion is uniform in the 760 acres, this is equivalent to 36 lbs. per acre/day. The calculated benthal diffusion load for the fifteen week period is 26 lbs. per acre per day.

During August the highest recorded pollution load at North Turner was 6.5 ppm (108067 lbs. B.O.D.5) and at Turner Center 4.4 ppm (66052 lbs.). The lowest concentration of dissolved oxygen was 1.7 ppm, August 19 (N.T.B.) and 0.6 ppm August 23 (T.C.B.) respectively; three days were recorded below one ppm.

3. Mile 4.25 This sampling station is located at the southern end of the "narrows", about half way from each shore. The Pool area between Turner Center Bridge and Mile 4.25 has always had very active Benthal deposits; it still does! Along the eastern shore, from the north end of the narrows (Mile 4.75) to about Mile five, the benthal in a strip of about one hundred feet wide is extremely active, summer after summer. The net changes which occurred between these two stations are listed below:

T.C.B. - Mile 4.25 Area
August 2-August 28 incl.

Station	D.O. lb/day	D.O. ppm	B.O.D.5 lbs/day	B.O.D.5 ppm	Temp. Av. °C
T.C.B.	21450	1.7	41360	3.5	23.3
Mile 4.25	1670	0.2	37360	3.3	24.0
Change	-19780	1.5	4000	0.2	

DISSOLVED OXYGEN - BIOCHEMICAL OXYGEN DEMAND

Weekly Average

1971

MILE 4.25

Week* Ending	Dissolved Oxygen ppm	Dissolved Oxygen lbs/day	B.O.D.5 ppm	B.O.D.5 lbs/day	Surplus D.O./ Deficit D.O.-
June 5	(Only two tests, results not included)				
12	4.6	100300	4.3	95330	/ 4970
19	3.2	52860	5.6	90650	-37790
26	0.3	4220	7.0	105920	-101700
average	2.6	52460	5.6	97300	-44840
July 3	0.2	2820	6.8	103530	-100710
10	1.3	15260	3.3	41190	-25930
17	0.1	1660	6.1	67620	-65960
24	0.6	7600	4.8	58280	-50680
31	0.2	2480	3.9	49020	-46540
average	0.5	5960	5.0	63930	-57970
Aug. 7	0.2	3140	3.6	50880	-47740
14	0.2	1960	3.1	34000	-32040
21	0.1	810	3.3	33550	-32740
28	0.1	760	3.1	30990	-30230
average	0.2	1670	3.3	37360	-35690
Sept. 4	2.4	33130	3.1	43430	-10300
11	0.5	5020	3.3	37210	-32190
18	1.9	27360	2.8	40630	-13270
average	1.6	21840	3.1	40340	-18500
Season average	1.1	17290	4.3	58820	-41530

*Five days/week

High temperatures were present in the Pool, especially during June and August. Gassing was almost continuous and frequently forced large quantities of malodorus sludge to the surface. During August the amount of dissolved oxygen entered the area -about 21000 lbs. per day- but almost none passed out downstream. A measured decrease of about 4000 lbs. B.O.D.5 was recorded, hence the minimum benthal contribution would be, 21000 minus 4000, plus the unknown aeration in the area.

FISH-KILL. From June 25 to July 17 there were at least three and possibly four minor fish-kills. The first was observed near mile three and consisted of about three dozen suckers, mostly small but some adults were floating downstream. On July 13 in the mile four area about twenty-six dead suckers were counted. On the seventeenth, six fish were floating in the same area. On all three days the dissolved oxygen in the water was insufficient to maintain fish life.

MILE 4.25

Period 1971	D.O. lbs/d	D.O. ppm	B.O.D.5 lbs/d	B.O.D.5 ppm	T.C.B. — Mile 4.25 D.O.lbs/d	B.O.D.lbs/d
June 7-June 26	52459	2.6	97296	5.6	-50718	-8365
June 28-July 31	5962	0.5	63928	5.0	-23460	-7397
Aug. 2-Aug. 28	1667	0.2	37356	3.3	-19787	-3999
Aug. 20-Sept.18	21840	1.6	40430	3.1	-20270	-3110
Season average	17290	1.1	58820	4.3	-31370	- 570

During August the water traversing this stretch of the pool had an average loss of about 19800 lbs. of dissolved oxygen per day, not including aeration increments. This loss of oxygen

occurred simultaneously with a B.O.D.5 net loss of only 4000 lbs. per day. The minimal Biochemical Oxygen Demand contributed by the Benthal in the area appears to be about 15800 lbs. per day.

3. Mile 2.5 This station is located about two and one-half miles north of Gulf Island Dam, in a relatively narrow area, in the southern end of the Pool. This stretch of the Pool covers a much larger area than the two located north of it. Benthal deposits are extensive and very active during the summer.

Mile 4.25-Mile 2.5 Area

August 2-August 28

Station	Dissolved Oxygen ppm	Dissolved Oxygen lbs/day	B.O.D.5 ppm	B.O.D.5 lbs/day
Mile 4.25	0.2	1670	3.3	37360
Mile 2.5	0.0	440	4.2	47350
Change	-0.2	-1230	+0.9	+ 9990

Much of this area of the Pool was, for all practical purposes, anaerobic from June 22 to September 15. During August about 1670 lbs/day of oxygen entered and very little left the sector. Under such conditions it is not surprising that the average B.O.D.5 load increased; the magnitude of the measured increase, 9990 lbs. per day, was larger than that recorded in 1970. The statistics for the fifteen week period, indicate a daily average net loss of 7470 lbs. of oxygen and an increase of 7110 lbs. of B.O.D.5. During August 1970 the measured B.O.D.5 decreased 7600 lbs/day in this sector.

DISSOLVED OXYGEN - BIOCHEMICAL OXYGEN DEMAND

Weekly Average

1971

MILE 2.5

Week* Ending	Dissolved Oxygen ppm	Dissolved Oxygen lbs/day	B.O.D.5 ppm	B.O.D.5 lbs/day	Surplus D.O./ Deficit D.O.-
June 5	(Only two tests; results not included)				
12	3.9	86150	3.9	87050	- 900
19	2.3	37680	5.2	83450	-45770
26	0.1	1780	8.6	130420	-128640
average	2.1	41870	5.9	100310	-58440
July 3	0.1	200	9.1	140110	-139910
10	0.3	3880	4.5	55060	-51180
17	0.2	1530	6.0	66740	-65210
24	0.0	000	5.5	69130	-69130
31	0.0	000	5.9	62600	-62600
average	0.1	1120	6.0	78730	-76610
Aug. 7	0.0	000	4.0	56580	-56580
14	0.0	230	4.0	42980	-42750
21	0.0	000	4.8	47880	-47880
28	0.1	1530	4.1	41980	-40450
average	0.0	440	4.2	47350	-46910
Sept. 4	0.5	6970	2.6	37400	-30430
11	0.1	1110	2.9	31790	-30680
18	0.4	6220	2.5	35860	-29640
average	0.3	4770	2.7	35020	-30250
Season average	0.5	9820	4.9	65930	-56110

*Five day/week

Mile 4.25-Mile 2.5 Area

Station	Period	Dissolved Oxygen ppm	Dissolved Oxygen lbs/d	B.O.D.5 ppm	B.O.D.5 lbs/d
Mile 4.25	June 7-Sept.18	1.1	17290	4.3	58820
Mile 2.5	June 7-Sept.18	0.5	9820	4.9	65930
Change		-0.6	- 7470	+0.6	+ 7110

On many days large areas were covered with floating sludge and pig-pen was almost a persistent odor. Kraft-hydrogen sulfide and/or pig-pen in varying intensities were present in the air, usually in the southern half of this sector, from early-July until late August. "Gassing" was continuous and extensive; much of the Benthal is deposited in this area.

Mile 2.5

Period	lbs/d	ppm	lbs/d	ppm	Mile 4.25 — Mile 2.5 D.O.lbs/d	B.O.D.lbs/d
June 7-June 26	41870	2.1	100305	5.9	-10589	+21009
June 28-July 31	1123	0.1	78729	6.0	- 439	+14801
Aug. 2-Aug. 28	"440"	0.0	47350	4.2	- 1227	+ 9997
Aug. 30-Sept.18	4770	0.3	35020	2.7	-17070	- 5410
Season average	9820	0.5	65930	4.9		

5. Mile One. Mile one sampling station is located in the Mile 2.5 - Deer Rips Dam area. Water was sampled for pH and for dissolved oxygen. This station yields more zero dissolved oxygen tests than any other along the entire length of the river. (cf data sheets).

6. Gulf Island Dam. Water samples obtained at the ten foot depth are not representative of the sixty-five (65) feet of water at the dam. Tests for dissolved

MILE ONE

June, July, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.
June				
22	24.1	6.3	0.1	0.6
23	24.1	6.4	0.1	0.7
25	25.0	6.4	0.0	0.0
26	24.8	6.3	0.0	0.0
29	24.0	6.4	0.4	4.5
30	24.8	6.3	0.0	0.0
July				
2	25.0	6.3	0.0	0.0
3	24.5	6.3	0.0	0.0
5	24.9	6.3	0.0	0.0
6	25.0	6.4	0.0	0.0
7	25.8	6.4	0.0	0.0
9	25.0	6.4	0.0	0.0
10	26.0	6.4	0.0	0.0
12	25.0	6.5	0.0	0.0
13	25.5	6.4	0.2	2.8
14	24.5	6.4	0.0	0.0
16	24.5	6.4	0.0	0.0
17	24.2	6.4	0.0	0.0
19	24.5	6.4	0.0	0.0
20	24.8	6.3	0.0	0.0
21	24.1	6.4	0.0	0.0
23	23.5	6.4	0.0	0.0
24	24.8	6.4	0.1	1.3
25	23.0	6.4	0.0	0.0
27	22.3	6.3	0.0	0.0
26	24.5	6.4	0.0	0.0
27	25.0	6.5	0.1	1.3
28	24.1	6.4	0.0	0.0
30	24.3	6.6	0.0	0.0
31	24.4	6.4	0.0	0.0

MILE ONE

August, September, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.
August				
2	25.0	6.4	0.0	0.0
3	24.5	6.4	0.0	0.0
4	24.5	6.4	0.04	0.5
6	23.9	6.4	0.0	0.0
7	24.2	6.3	0.0	0.0
9	24.8	6.3	0.0	0.0
10	25.5	6.3	0.0	0.0
11	25.0	6.4	0.0	0.0
13	24.8	6.4	0.0	0.0
14	24.8	6.4	0.0	0.0
16	24.1	6.3	0.0	0.0
17	24.0	6.3	0.0	0.0
18	24.2	6.4	0.0	0.0
20	24.0	6.3	0.0	0.0
21	24.4	6.3	0.0	0.0
23	24.0	6.4	0.0	0.0
24	23.5	6.3	0.0	0.0
25	23.0	6.4	0.0	0.0
27	22.3	6.3	0.0	0.0
30	22.9	6.4	0.0	0.0
31	22.1	6.4	0.1	0.8
September				
1	21.9	6.4	0.1	1.0
3	22.0	6.4	0.1	0.7
4	22.0	6.4	0.0	0.0
6	21.9	6.5	0.3	3.2
7	22.0	6.4	1.1	12.3
8	22.5	6.4	0.3	3.8
10	22.8	6.4	0.6	6.6
11	21.9	6.4	0.1	1.1
13	21.1	6.4	0.1	0.6
14	21.1	6.4	0.3	3.0
15	22.1	6.3	0.1	0.7
17	21.9	6.5	0.4	4.8
18	21.2	6.5	0.6	6.9

oxygen were made six days a week and biochemical oxygen demands on Thursdays and Saturdays. Mechanical aeration, described in Part Four of this report, dissolved some oxygen in the upper fifteen foot layer of water entering the turbines; only two days were recorded as zero. (cf tables). When the three aerators were shut-down on September 20 the dissolved oxygen content of the river water decreased from 0.9 ppm to 0.1 ppm.

7. Deer Rips Dam. The statistics recorded here include the effects of mechanical and natural aeration. The thorough mixing which occurs at Gulf Island power plant makes the samples taken in the canal at Deer Rips very representative of the river water passing downstream at that time.

From June 26 to August 21, there were thirty-nine (39) days when the dissolved oxygen in the water sampled at Deer Rips Dam was reported as zero. Results of the tests are summarized in the tables:

Mile 2.5-Deer Rips Dam Area

August 2 - August 28

Station	Dissolved Oxygen		B.O.D.5	
	lbs/d	ppm	lbs/d	ppm
Mile 2.5	440	o.o	47350	4.2
D.R.Dam	1910	0.2	41490	3.6
Change	+1470	+0.2	- 5860	-0.6

The measured increase of dissolved oxygen in this area is very small but is believed to be real. The reduction in measured B.O.D.5 is significant as it indicates that an equivalent oxygen 'pick-up' must have occurred, natural and/or mechanical, during

passage through area. Much of the benthal in the down-stream half of this sector is old, humic and relatively inactive. Gas bubbles are observed but small in number compared to those seen upstream.

DEER RIPS DAM

Period 1971	Dissolved Oxygen lbs/d	ppm	B.O.D.5 lbs/d	ppm	Mile 2.5 ⟶ D.R.D. D.O.lbs/d	B.O.D.lbs/d
May 31-June 26	68691	3.0	67674	3.6	⁄26921	-32631
June 28-July 31	0	0.0	68767	5.5	- 1123	- 9962
Aug. 2-Aug. 28	1910	0.2	41489	3.6	⁄ 1470	- 5861
Aug. 30-Sept.18	6620	0.5	29290	2.2	⁄ 1850	- 5730
Season average	18940	1.2	54270	3.9		
	(10120) omitting the first week in June					

DEER RIPS DAM

Period 1971	Dissolved Oxygen lbs/d	ppm	B.O.D.5 lbs/d	ppm	N.T.B. ⟶ D.R.D. D.O.lbs/d	B.O.D.lbs/d
May 31-June 26	68791	3.0	67674	3.6	-54963	-34746
June 28-July 31	0	0.0	68767	5.5	-55988	- 1787
Aug. 2-Aug. 28	1910	0.2	41489	3.6	-42406	-14444
Aug. 30-Sept.18	6620	0.5	29290	2.2	-57120	-17710
Season average	18940	1.2	54270	3.9	-52750	-17150

DISSOLVED OXYGEN - BIOCHEMICAL OXYGEN DEMAND

Weekly Average

1971

DEER RIPS DAM

Week Ending	Dissolved Oxygen ppm	Dissolved Oxygen lbs/day	B.O.D.5 ppm	B.O.D.5 lbs/day	Surplus D.O./ Deficit D.O.-
June 5	5.8	150250	2.9	69480	/80770
12	3.7	83730	2.9	65400	/18330
19	2.0	32870	3.4	55130	-22260
26	0.6	8310	5.3	80700	-72390
average	3.0	68790	3.6	67670	/ 1120
July 3	0.0	000	7.2	103530	-103530
10	0.0	000	6.2	74050	-74050
17	0.0	000	4.8	54260	-54260
24	0.1	110	4.8	56580	-56470
31	0.0	380	4.4	55430	-55050
average	0.0	000	5.5	68770	-68770
Aug. 7	0.1	1220	4.0	59040	-57820
14	0.0	340	3.9	42180	-41840
21	0.4	3490	3.3	32810	-29320
28	0.3	2590	3.1	31920	-29330
average	0.2	1910	3.6	41490	-39580
Sept. 4	0.3	4600	2.6	37110	-32510
11	0.3	3510	2.1	23420	-19910
18	0.8	11750	1.9	27350	-15600
average	0.5	6620	2.2	29290	-22670
Season Average	1.2	18940 (10120)*	3.9	54270	-35330

*Omitting the first week in June

RECAPITULATION

Location	D.O. lbs/day	B.O.D.5 lbs/day	Surplus D.O. lbs/day	Deficit D.O. lbs/day
1. N.T. Bridge	71690	71420	270	[illegible]
2. T.C. Bridge	48660	59390	-	10730
3. Mile 4.25	17290	58820	-	41530
4. Mile 2.5	9820	69930	-	56110
5. Deer Rips Dam	18940	54270	-	35330

These statistics suggest that a reduction of about seventy-thousand lbs/day of pollution load arriving at North Turner, hopefully, may make it possible to maintain about two ppm dissolved oxygen at Deer Rips, during the period of maximum benthal activity in the Pool. The major unknown is the summer rate of benthal oxygen demand with aerobic water above it.

Mechanical Aeration. Gulf Island Dam. Owing to the prolonged period of anaerobic water arriving at the aerators, the added oxygen frequently had completely disappeared when the water arrived at Deer Rips Dam. However, in the upper twenty feet of the water at Gulf Island Dam, there were only two days when the dissolved oxygen test was zero but twenty-two reports were listed as below 0.5 ppm, during July and August. Hydrogen sulfide was always present in the bottom layers of water, so frequently any residual dissolved oxygen reacted with it when mixing occurred in the turbines.

AERATOR LOG 1971

1. Installation complete June five.

2. Start up all three aerators, June 18, 11:00 a.m.

3. Shut down July 3, 9:30 a.m. to 5:45 p.m., then start up. Shut down July 4, 7:10 a.m. to 1:25 p.m., then start up, to permit divers to work at the intakes.

4. Severe electric storm, shut down the Brown Company aerator, from about 7:00 p.m. to start up at 10:25 a.m. July 18.

5. All three generators shut down 7:34 a.m. to 4:13 p.m. to permit divers to work at the intakes.

6. Severe electric storm shutdown all three aerators about 2:45 p.m. August 11. Central Maine Power operator did not notify me until 12:10 a.m. midnight. Restarted aerators 9:15 a.m. August 12.

7. September 20, 11:35 a.m., aerators shut down for this season.

8. Stewart & Williams will remove the aerators from the water and place them, conditioned for winter, on the shore near the Gulf Island Dam.

Androscoggin Pool

CONDUCTIVITY

The entrance to the upstream end of the Pool at North Turner is a relatively narrow rips which acts as a moderately good aerator and producer of foam. During the month of July, daily (except Thursday) measurements of conductivity were made on water obtained at the five major stations in the Pool. A summary of the results are tabulated below.

July holiday shut-downs produced the lowest weekly average at all the stations in the Pool, and indicate an approximate time of passage.

Conductivity in Androscoggin Pool
July 1971

North Turner Bridge

		Mmhos Daily Aver.
Week ONE	(5-10)	108
" TWO	(12-17)	135
" THREE	(19-24)	135
" FOUR	(26-31)	134
July average		128

Turner Center Bridge

	Mmhos Daily Aver.
Week ONE	93
" TWO	133
" THREE	133
" FOUR	134
July average	123

Mile 4.25

	Mmhos Daily Av.
Week ONE	107
Week TWO	124
" THREE	140
" FOUR	133
July average	126

Mile 2.5

	Mmhos Daily Av.
Week ONE	116
" TWO	111
" THREE	135
" FOUR	132
July average	127

Deer Rips Dam

	Mmhos Daily Av.
Week ONE	123
" TWO	105
" THREE	124
" FOUR	132
July average	127

At normal summer flows the time of passage of the water through the Pool approximates eleven days. During this period some of the suspended and colloidal matter settle-out, and very active benthal deposits disperse, lower fatty acids, hydrogen sulfide etc., etc. The statistics appear to indicate that, for last July, the conductivity decreased between North Turner and Turner Center and then increased to Mile 2.5 , then decreased to Deer Rips. These changes may or may not be significant; the Deer Rips samples probably are representative of all depths back of Gulf Island Dam whereas the other water samples, except North Turner may only represent a restricted level.

The question of the conductivity varying with the depth of the water lead to making determinations of Mile Three the center of a very active benthal area. Both determinations definitely indicate,

June 19

1.	Surface to six inches	103 Mmhos	6.35 pH
2.	Five feet	99 "	6.33 pH
3.	Fifteen feet	98 "	6.25 pH
4.	Twenty-five feet	102 "	5.81 pH
5.	Surface of Benthal layer about 26 feet		

June 26

1.	Surface	107 Mmhos	6.40 pH
2.	Five feet	103 "	6.41 pH
3.	Fifteen feet	105 "	6.19 pH
4.	Twenty-five feet	127 "	5.48 pH
5.	Surface of Benthal layer 27 feet		

an acid "layer" or gradient just above the Benthal. Similar variations have been reported at other sampling stations.

NORTH TURNER BRIDGE

May, June, 1971

Date	TEMP. C	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/d	B.O.D. ppm	B.O.D. lbs/d
May							
6	4.9	6.5	13.0	101.3		5.1	
13	10.1	6.6	10.8	96.9		3.3	
20	13.5	6.8	8.8	83.8		5.8	
27	13.0	7.0	8.9	84.0		6.0	
29	12.8		9.2				
31	15.0	6.9	8.3	81.1	255391	5.1	156927
June							
1	16.0	6.7	8.5	84.5	217758	2.6	66608
2	16.0	6.6	8.4	84.1	195248	3.0	69731
3	16.2	6.8	7.7	77.5	168476	5.0	109400
4	18.0	6.7	7.6	79.6	163258	5.1	109554
5	17.1	6.8	7.0	72.5	145901	5.7	118805
Week Aver.	16.4	6.8	7.9		191005	4.4	105171
7	18.0	6.6	7.3	76.5	141155	5.0	96681
8	19.2	6.6	7.0	74.9	156562	5.3	118539
9	20.0	6.7	6.2	67.8	161599	5.8	151173
10	18.3	6.6	7.3	77.1	181391	5.6	139149
11	19.8	6.7	7.0	76.5	143543	3.8	77923
12	19.0	6.7	6.5	69.5	124248	5.0	95575
Week Aver.	19.1	6.7	6.9		151416	5.1	113180
14	19.8	6.8	6.5	71.0	109777	4.8	81066
15	20.0	6.8	6.5	70.6	108936	4.5	75417
16	19.7	6.6	6.2	67.0	100249	6.1	78632
17	19.8	6.7	6.4	69.3	99564	5.9	91786
18	21.3	6.7	5.7	64.3	83202	7.1	103638
19	22.0	6.8	5.2	59.5	75384	5.6	81183
Week Aver.	20.4	6.7	6.1		96185	5.8	85287
21	24.0	6.7	2.4	28.2	34530	10.1	145317
22	23.5	6.7	4.3	50.5	63711	5.9	87418
23	23.5	6.7	4.7	54.4	66417	6.5	100398
24	22.3	6.9	3.0	34.2	44847	7.6	113613
25	23.0	6.7	4.6	53.1	64858	5.7	80367
26	23.0	6.7	4.3	48.9	64281	7.3	109128
Week Aver.	23.2	6.7	3.9		56411	7.2	106040
28	22.0	6.7	4.7	53.6	63520	6.0	81090
29	21.9	6.7	4.5	51.3	53324	6.0	71099
30	22.8	6.7	3.6	41.7	44763	7.8	96988

NORTH TURNER BRIDGE

July, 1971

Date July	TEMP.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs.	B.O.D. ppm	B.O.D. lbs/d
1	23.8	6.8	3.6	42.2	43310	6.2	74590
2	23.5	6.7	3.8	44.6	64239	6.6	111573
3	23.0	6.9	5.5	62.9	110429	4.5	90351
Average	22.8	6.8	4.3		63264	6.2	87615
5	22.5	6.9	6.3	71.6	80093	2.6	33054
6	22.5	6.9	6.4	73.4	74705	2.6	30349
7	23.5	6.9	6.0	69.5	65787	2.3	25218
8	23.0	6.8	5.8	66.7	63889	3.3	36350
9	24.0	6.9	3.9	45.6	44154	9.4	106424
10	24.5	6.9	3.7	43.7	43201	7.5	87570
Average	23.3	6.9	5.4		61972	4.6	53161
12	23.1	6.8	4.8	54.6	49467	4.5	46376
13	23.0	6.8	4.7	54.3	48933	5.7	59344
14	22.5	6.8	4.6	52.6	51363	4.9	54713
15	22.0	6.8	4.3	48.9	47401	6.2	68345
16	23.0	6.7	4.2	48.6	47039	5.6	62719
17	23.1	6.8	4.0	45.6	47636	6.3	75027
Average	22.8	6.8	4.4		48640	5.5	61087
19	23.0	6.8	4.0	46.0	47788	6.1	72877
20	22.2	6.9	4.0	45.8	49418	7.6	93895
21	22.5	6.8	4.6	58.0	61400	5.1	68074
22	21.5	6.8	5.3	59.6	62967	6.0	71283
23	22.5	6.7	3.8	43.9	39591	7.5	78141
24	23.5	6.8	4.1	46.8	46683	6.0	68316
Average	22.5	6.8	4.3		51308	6.4	75431
26	24.0	6.8	4.2	49.4	56802	6.1	82499
27	24.0	6.8	5.0	58.3	61770	4.3	53122
28	23.1	6.8	4.2	47.9	48672	5.1	59102
29	23.0	6.8	3.9	44.8	44306	5.3	60211
30	24.0	6.9	4.1	48.5	45667	6.2	69058
31	24.2	6.8	3.3	38.4	45276	7.0	76040
Average	23.7	6.8	4.1		50416	5.7	66672

NORTH TURNER BRIDGE

August, 1971

Date	TEMP.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
August							
2	24.3	6.8	3.4	40.4	43506	6.0	76776
3	24.1	6.8	3.8	44.7	55344	4.9	71365
4	23.5	6.8	4.3	50.0	65350	6.1	92706
5	22.0	6.8	4.1	46.6	68165	6.5	108067
6	22.0	6.9	4.8	55.0	65951	5.2	71447
7	22.1	6.8	4.1	46.8	53735	5.2	68151
Average	23.0	6.8	4.1		58675	5.7	81419
9	23.0	6.8	4.3	48.9	49145	4.8	54859
10	24.0	6.7	3.9	45.6	41835	5.2	55804
11	24.9	6.7	3.3	39.8	35037	4.7	49901
12	24.0	6.7	3.4	40.0	37123	5.1	55685
13	23.5	6.7	3.5	40.4	36907	4.4	46398
14	24.0	6.9	3.8	44.5	42511	3.8	42511
Average	23.9	6.8	3.7		40426	4.5	50860
16	22.0	6.9	3.9	44.5	37910	4.3	41798
17	22.2	6.8	3.7	42.0	35780	4.9	47384
18	23.0	6.9	3.9	44.9	39313	4.2	42337
19	23.0	6.9	1.7	19.5	17702	4.8	49983
20	23.5	6.7	3.4	39.6	36608	4.5	48453
21	24.1	6.7	3.4	39.5	36645	4.1	44190
Average	23.0	6.8	3.3		33993	4.5	45691
23	24.0	6.7	3.2	37.5	31325	3.9	38177
24	20.9	6.7	3.7	41.6	37685	4.5	45833
25	21.0	6.8	4.2	46.6	45085	4.7	50453
26	20.3	6.7	4.5	49.2	44841	4.7	46834
27	20.0	6.8	4.5	48.6	46720	4.5	46720
28	19.8	6.9	5.1	55.6	59359	4.0	46556
Average	21.0	6.8	4.2		44169	4.4	45762
30	19.5	6.8	6.4	68.0	121478	4.7	89210
31	19.0	7.0	5.7	60.6	80196	3.9	54871

NORTH TURNER BRIDGE

September, 1971

Date	TEMP.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
1	18.5	6.8	5.8	61.8	70338	3.7	44871
2	18.1	6.8	5.8	61.1	65331	5.1	57446
3	19.2	6.8	5.0	53.3	56900	7.4	84213
4	20.5	6.9	4.7	52.0	55897	6.9	82062
Average	19.1	6.9	5.6		75023	5.3	48779
6	22.0	6.7	4.2	47.7	45344	5.6	60458
7	21.0	6.8	4.7	52.2	53498	4.3	48945
8	21.2	6.9	5.5	60.7	64966	2.5	29530
9	21.4	6.8	5.4	60.5	61137	2.6	29436
10	21.5	6.8	4.6	51.7	48004	3.7	38612
11	21.5	6.9	3.9	44.0	41800	6.0	64308
Average	21.4	6.8	4.7		52458	4.1	45215
13	21.0	6.8	4.5	50.1	53717	4.8	57298
14	20.4	6.8	4.7	51.3	64323	6.1	83483
15	20.0	6.8	5.5	60.0	89925	5.2	85020
16	19.6	6.8	5.7	61.4	96513	6.6	111752
17	20.4	6.9	6.2	67.8	90870	3.7	54229
18	20.2	6.8	5.6	60.9	74357	3.7	49129
Average	20.1	6.8	5.2		78280	5.0	73490
20	19.0	6.7	5.5	58.4	63022	4.6	52709
21	19.2	6.8	5.9	63.2	66720	4.1	46365
22	18.2	6.8	5.7	60.3	70206	5.1	62816
23	17.3	6.8	6.0	62.2	72316	5.6	67494
24	18.0	6.8	6.3	66.6	72901	5.2	60172
25	15.9	6.9	6.1	60.5	71560	5.7	66867
Average	17.9	6.8	5.9		69450	5.1	59400

TURNER CENTER BRIDGE

May, June, 1971

Date	TEMP.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/d	B.O.D. ppm	B.O.D. lbs/d
May							
6	5.0	6.4	12.6	100.0		5.7	
13	10.6	6.7	10.6	94.8		3.2	
20	14.0	6.7	9.0	86.5		2.6	
27	13.7	7.0	8.4	80.3		3.2	
31	15.5	6.9	7.1	70.2	227988	5.5	176610
June							
1	17.0	6.4	7.4	75.9	205394	2.7	74941
2	17.3	6.5	7.2	74.7	179625	2.2	54885
3	16.2	6.8	7.3	73.4	170688	3.2	74822
4	17.2	6.6	6.4	66.5	145151	3.7	115667
5	18.0	6.7	6.1	64.4	134414	3.8	83733
Week Aver.	16.9	6.7	6.9		177210	3.5	96776
7	18.5	6.5	6.2	65.1	125884	3.6	73094
8	19.0	6.5	5.9	63.0	140821	3.9	93085
9	20.0	6.5	5.9	63.9	106255	4.2	114080
10	19.1	6.7	5.8	61.9	156599	4.5	121499
11	20.4	6.5	6.0	64.7	129275	2.4	51710
12	19.5	6.5	5.6	60.0	112834	3.0	60447
Week Aver.	19.4	6.5	5.9		128611	3.6	85653
14	20.4	6.5	5.0	54.7	88559	3.3	58449
15	20.3	6.6	5.1	56.4	89229	3.8	66484
16	20.3	6.6	5.2	57.0	87609	4.5	75815
17	20.0	6.6	4.6	50.0	75016	6.3	102740
18	22.0	6.5	4.5	51.4	67310	5.8	86756
19	22.5	6.5	3.8	43.3	57110	6.9	103700
Week Aver.	21.0	6.6	4.7		77472	5.1	82324
21	24.1	6.6	2.7	32.4	40094	5.3	78704
22	24.5	6.5	0.2	2.1	3023	6.8	102815
23	24.0	6.5	1.5	17.6	24156	5.3	85001
24	23.1	6.6	2.0	23.0	30995	5.6	86788
25	24.0	6.6	0.2	2.8	40975	6.9	100974
26	23.5	6.5	2.4	27.4	37234	5.9	91533
Week Aver.	23.9	6.6	1.5		29413	6.0	90969
28	23.0	6.6	2.1	24.6	30504	5.7	82798
29	22.5	6.5	2.4	26.9	29548	4.9	60328
30	24.5	6.6	1.9	22.8	23597	6.4	79487

TURNER CENTER BRIDGE

July, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
1	23.3	6.5	1.7	19.6	21746	6.2	75664
2	24.5	6.5	1.4	16.5	20411	6.7	97685
3	24.5	6.6	2.6	30.5	58532	5.9	132868
Average	23.9	6.6	2.0		30723	6.0	88138
5	24.0	6.7	3.9	45.8	52228	2.4	32140
6	24.0	6.7	4.5	53.2	55646	0.4	6946
7	24.2	6.6	3.6	42.6	40823	2.7	30617
8	23.1	6.7	4.1	47.2	46051	2.5	28079
9	24.5	6.6	3.3	38.8	37600	2.3	26206
10	24.9	6.7	2.9	34.6	34989	3.5	42228
Average	24.1	6.7	3.7		44556	2.3	27703
12	25.0	6.7	0.7	7.9	7446	5.4	57445
13	24.0	6.6	2.0	23.4	20735	5.3	54950
14	23.5	6.6	2.4	28.1	27734	3.8	43912
15	22.3	6.6	2.1	23.9	22906	4.5	49085
16	23.1	6.5	2.4	27.9	26576	4.6	50921
17	23.8	6.6	2.3	26.8	28244	4.4	54032
Average	23.6	6.6	2.0		22274	4.7	51724
19	24.2	6.6	1.3	15.6	16075	5.7	70486
20	23.5	6.6	1.6	18.0	20044	5.7	71409
21	23.0	6.7	2.1	23.8	28576	4.8	65318
22	22.7	6.7	1.9	21.8	22161	5.6	65318
23	23.5	6.7	2.7	31.1	27701	5.1	52325
24	24.2	6.6	2.6	30.6	29970	4.2	48413
Average	23.5	6.7	2.0		24088	5.2	62212
26	24.2	6.6	1.9	22.4	26162	3.6	49571
27	24.5	6.6	2.0	23.4	25487	4.8	61171
28	24.0	6.6	2.5	29.9	28754	3.8	43707
29	23.2	6.7	2.2	25.4	25660	4.1	47822
30	24.5	6.6	1.7	19.8	18910	5.2	57844
31	24.3	6.7	1.9	23.0	27839	3.9	57143
Average	24.1	6.6	2.0		25469	4.2	52876

TURNER CENTER BRIDGE

August, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
2	24.1	6.7	2.5	29.1	33614	4.2	56473
3	24.2	6.6	1.7	19.8	25520	4.4	66052
4	24.1	6.7	2.1	24.9	32885	4.1	64205
5	22.5	6.6	2.7	30.9	47385	4.1	71954
6	23.0	6.6	2.5	28.2	55504	4.2	59648
7	22.5	6.6	2.9	33.0	39211	3.5	47324
Average	23.4	6.6	2.4		39186	4.1	60943
9	23.0	6.6	1.9	23.1	22264	3.3	38669
10	24.0	6.5	2.3	26.5	24715	3.8	40834
11	25.0	6.6	1.8	21.3	18565	3.2	33004
12	24.4	6.5	1.0	11.8	10961	4.1	44944
13	24.2	6.5	1.1	12.4	11345	3.4	35067
14	24.5	6.6	1.2	14.7	13768	3.6	41303
Average	24.2	6.6	1.6		16938	3.6	38970
16	23.2	6.7	1.2	13.6	11401	3.1	29462
17	23.1	6.8	1.3	14.6	12214	3.3	31006
18	23.2	6.8	1.5	16.9	14903	3.6	35769
19	23.2	6.7	1.4	16.2	13607	3.5	34019
20	24.1	6.5	0.8	9.2	8683	3.7	40159
21	24.5	6.6	1.2	13.8	12928	2.1	22623
Average	23.6	6.7	1.2		12289	3.2	32173
23	24.2	6.5	0.6	7.3	5734	2.6	24850
24	23.0	6.6	0.9	9.8	8893	2.5	24704
25	22.0	6.6	1.5	17.0	16361	3.2	34905
26	21.0	6.7	2.0	22.2	19871	4.1	40737
27	21.8	6.5	1.8	20.2	18662	3.4	35251
28	20.8	6.7	3.0	32.8	34899	3.4	39552
Average	22.1	6.6	1.6		17403	3.2	33333
30	20.1	6.7	3.9	42.2	81291	3.5	72993
31	19.8	6.8	4.5	48.4	67796	3.5	52730

TURNER CENTER BRIDGE

September, 1971

Date	Temp.	pH	D.O. ppm	D,O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
1	19.5	6.7	4.1	43.9	51143	3.1	38669
2	18.7	6.9	4.6	48.8	52412	3.8	43297
3	19.6	6.5	4.1	44.1	45829	3.2	35769
4	20.8	6.8	3.3	36.6	40544	5.7	70030
Average	19.9	6.7	4.1		56503	3.8	52248
6	22.0	6.6	2.3	26.5	24964	4.0	43415
7	22.0	6.6	1.7	19.7	19644	3.5	40445
8	21.1	6.5	1.9	20.5	22058	4.0	46439
9	21.8	6.7	2.9	32.8	33042	3.5	39878
10	22.5	6.8	3.4	38.9	36169	1.6	17020
11	22.0	6.7	2.8	32.1	30467	2.0	21762
Average	21.9	6.7	2.5		27724	3.1	34827
13	21.4	6.7	2.1	23.5	25401	3.5	42335
14	20.6	6.7	3.0	33.3	42443	2.7	38199
15	20.6	6.7	2.8	31.2	43394	4.6	71290
16	19.9	6.7	4.2	45.6	74390	3.8	67305
17	20.6	6.7	4.4	47.9	68428	3.2	69766
18	20.5	6.7	4.5	49.2	62300	2.6	36000
Average	20.6	6.7	3.5		52730	3.4	54150
20	20.0	6.6	3.8	41.6	43707	3.0	34505
21	19.6	6.7	3.8	41.1	41655	2.9	31789
22	19.0	6.6	4.2	44.5	49669	3.0	35477
23	18.2	6.8	3.9	41.1	47174	3.6	43545
24	18.5	6.7	4.9	51.5	54507	3.0	33371
25	17.8	6.8	4.4	46.5	52849	3.9	46843
Average	18.9	6.7	4.2		48260	3.2	37590

MILE 4.25

May, June, 1971

Date	TEMP. C	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/d	B.O.D. ppm	B.O.D. lbs/d
May							
31	14.5	6.8	7.3	70.7		5.8	
June							
5	18.0	6.5	5.0	52.6		4.1	
7	20.5	6.5	4.7	51.4	95227	4.2	85096
8	21.0	6.5	5.2	57.7	109564	4.4	92708
9	20.5	6.5	4.1		111135	5.8	157215
11	21.1	6.5	4.6	51.1	98905	3.4	73103
12	21.0	6.5	4.3	47.4	86662	3.4	68524
Week Aver.	20.8	6.5	4.6		100299	4.3	95329
14	21.5	6.5	3.1	34.4	54793	4.2	74235
15	21.5	6.6	4.5	50.8	78570	3.8	66348
16	22.0	6.6	3.6	40.3	60527	5.5	92472
18	23.5	6.6	2.4	28.1	35825	7.7	114938
19	23.1	6.5	2.3	26.4	34578	7.0	105238
Week Aver.	22.8	6.6	3.2		52859	5.6	90646
21	24.5	6.4	1.2	14.7	17783	6.8	100769
22	24.5	6.4	0.1	1.0	1508	6.6	99581
23	24.2	6.5	0.0	0.0	0000	6.5	104026
25	25.0	6.4	0.1	0.7	876	6.6	96386
26	24.2	6.6	0.1	0.7	931	8.3	128808
Week Aver.	24.5	6.5	0.3		4220	7.0	105914
28	24.0	6.4	0.1	0.7	870	5.7	82627
29	23.5	6.4	0.4	4.3	4550	5.5	67573
30	23.8	6.4	0.4	5.2	4958	7.3	90476

MILE 4.25

July, 1971

Date	TEMP. C	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/d	B.O.D. ppm	B.O.D. lbs/d
July							
2	25.0	6.4	0.1	1.0	1455	8.2	119310
3	24.5	6.4	0.1	0.8	2253	7.0	157675
Week Aver.	24.2	6.4	0.2		2817	6.8	103532
5	24.9	6.5	0.7	8.7	9355	5.1	68156
6	25.0	6.6	1.5	17.5	18510	4.2	51828
7	25.2	6.6	2.0	23.6	22632	2.3	26027
9	24.5	6.5	1.1	13.1	12507	2.3	26151
10	26.0	6.5	1.1	13.7	13278	2.8	33799
Week Aver.	25.1	6.5	1.3		15256	3.3	41192
12	25.0	6.5	0.0	0	0	7.5	79620
13	25.0	6.5	0.0	0	0	7.7	79672
14	23.8	6.5	0.1	1.2	1153	5.9	68039
16	23.5	6.5	0.2	2.1	2209	4.8	53026
17	24.5	6.5	0.4	4.2	4914	4.7	57744
Week Aver.	24.4	6.5	0.1		1655	6.1	67620
19	24.2	6.5	0.3	3.3	3722	3.9	48126
20	24.1	6.6	2.1	24.2	26254	5.1	63770
21	24.0	6.6	0.1	0.8	1358	5.4	73333
23	23.8	6.5	0.2	2.5	2048	5.3	54267
24	24.8	6.5	0.4	4.4	4613	4.5	51894
Week Aver.	24.2	6.5	0.6		7599	4.8	58278
26	24.5	6.6	0.1	1.7	1374	4.0	54964
27	25.0	6.5	0.4	4.1	5087	3.5	44510
28	24.8	6.5	0.1	0.2	1147	3.9	44764
30	24.3	6.5	0.3	4.0	3330	4.2	46624
31	24.5	6.5	0.1	1.0	1466	3.7	54235
Week Aver.	24.6	6.5	0.2		2481	3.9	49019

MILE 4.25

August, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
2	25.0	6.5	0.0	0	0	3.7	49277
3	25.0	6.5	0.2	2.6	2996	3.3	49437
4	24.1	6.6	0.08	0.9	1563	3.5	54695
6	23.1	6.5	0.5	6.1	7087	3.5	49606
7	23.0	6.6	0.3	3.9	4058	3.8	51400
Average	24.0	6.5	0.2		3141	3.6	50883
9	24.0	6.6	0.2	1.9	2339	3.1	36249
10	25.0	6.6	0.3	3.5	3217	3.0	32170
11	25.5	6.4	0.3	3.1	3088	2.8	28820
13	25.0	6.5	0	0	0	3.5	36026
14	25.0	6.5	0.1	1.3	1148	3.2	36730
Average	24.9	6.5	0.2		1958	3.1	33999
16	23.5	6.5	0.1	1.3	948	3.3	31297
17	24.0	6.6	0.1	0.8	938	3.9	36570
18	24.0	6.7	0	0	0	3.1	30740
20	24.2	6.5	0.1	1.3	1083	3.0	32496
21	24.8	6.5	0.1	1.3	1078	3.4	36645
Average	24.1	6.6	0.1		811	3.3	33550
23	24.0	6.5	0.1	1.5	954	3.2	30522
24	23.0	6.4	0.1	1.0	986	2.9	28600
25	22.9	6.6	0.1	1.1	1089	3.2	34835
27	22.0	6.5	0	0	0	2.9	30006
28	Storm: no samples						
Average	23.0	6.5	0.09		757	3.1	30991
30	21.5	6.6	1.7	19.1	35360	2.6	54080
31	20.5	6.6	2.3	25.1	34581	3.2	48112

MILE 4.25

September, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
1	20.0	6.6	2.9	31.4	36100	3.3	41078
3	21.0	6.5	2.7	30.2	30119	3.1	34581
4	21.3	6.6	2.4	26.6	29486	3.2	39315
Average	20.9	6.6	2.4		33129	3.1	43433
6	20.8	6.4	0.3	3.5	3250	4.5	48744
7	21.2	6.6	0.2	2.2	2306	3.5	40362
8	22.1	6.6	0.2	2.5	2317	3.4	39389
10	22.0	6.6	0.7	8.3	7431	2.6	27602
11	22.0	6.7	0.9	10.1	9797	2.2	23949
Average	21.6	6.6	0.5		5020	3.3	37209
13	21.0	6.7	1.4	15.8	16899	2.6	31385
14	21.0	6.7	1.0	10.8	14119	2.2	31062
15	22.0	6.6	1.6	18.2	24744	2.9	44849
17	21.0	6.7	2.9	32.1	45005	3.5	54317
18	20.9	6.7	2.6	29.2	36007	3.0	41547
Average	21.2	6.7	1.9		27359	2.8	40632
25	18.0	6.7	2.7	28.0		2.9	

MILE 2.5

May, June, 1971

Date	TEMP. C	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/d	B.O.D. ppm	B.O.D. lbs/d
May							
31	15.1	6.7	7.1	69.5		3.3	
June							
5	17.0	6.4	4.9	50.8	107996	3.2	70528
7	20.0	6.4	3.8	41.4	76992	4.1	83070
8	20.0	6.5	4.6	50.0	96922	2.7	56889
9	20.2	6.4	3.8		103000	4.9	132819
11	21.0	6.5	3.5	38.7	75254	3.9	83854
12	21.0	6.5	3.9	43.2	78600	3.9	78600
Week Aver.	20.4	6.5	3.9		86154	3.9	87046
14	21.0	6.4	2.3	25.7	40653	3.9	68933
15	21.5	6.5	2.7	30.2	47142	3.5	61110
16	22.5	6.5	2.6	29.5	43714	4.7	79021
18	23.0	6.4	2.3	26.4	34332	7.3	108967
19	23.0	6.4	1.5	16.7	22551	6.6	99224
Week Aver.	22.2	6.5	2.3		37678	5.2	83451
21	24.0	6.4	0.6	6.8	8891	7.4	109661
22	24.0	6.5	0.0	0.0	0000	8.1	122213
23	24.1	6.4	0.0	0.0	0000	7.4	118430
25	24.8	6.3	0.0	0.0	0000	9.4	137278
26	24.5	6.3	0.0	0.0	0000	10.6	164501
Week Aver.	24.3	6.4	0.1		1778	8.6	130417
28	24.5	6.4	0.7	8.1	1015	10.2	147859
29	24.1	6.4	0.0	0.0	0000	6.9	84773
30	24.5	6.3	0.0	0.0	0000	9.4	116504

MILE 2.5

July, 1971

Date	TEMP. C	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/d	B.O.D. ppm	B.O.D. lbs/d
July							
2	24.5	6.3	0.0	0.0	0000	9.6#	139680
3	24.0	6.3	0.0	0.0	0000	9.4	211735
Week Aver.	24.3	6.3	0.14		203	9.1	140110
5	24.8	6.4	0.0	0.0	0000	3.8	50783
6	25.2	6.6	0.0	0.0	0000	6.2	76508
7	25.0	6.5	1.1	12.8	12448	4.4	49492
9	25.0	6.5	0.4	4.3	4548	Lost	
10	25.5	6.5	0.2	1.9	2414	3.6	43456
Week Aver.	24.9	6.5	0.34		3882	4.5	55060
12	25.0	6.5	0.0	0.0	0000	3.8	40341
13	25.2	6.4	0.7	8.8	7657	8.2	84845
14	24.5	6.4	0.0	0.0	0000	6.4	73805
16	24.0	6.4	0.0	0.0	0000	6.3	69596
17	24.8	6.5	0.0	0.0	0000	5.3	65116
Week Aver.	24.7	6.4	0.15		1531	6.0	66741
19	24.2	6.4	0.0	0.0	0000	5.8	71572
20	24.5	6.4	0.0	0.0	0000	5.8	72512
21	24.0	6.4	0.0	0.0	0000	5.8	78764
23	24.0	6.5	0.0	0.0	0000	5.8	59386
24	25.0	6.5	0.0	0.0	0000	5.5	63426
Week Aver.	24.3	6.4	0.0	0.0	0000	5.7	69134
26	24.5	6.4	0.0	0.0	0000	5.1	70079
27	25.2	6.5	0.1	0.1	0000	4.2	53411
28	24.9	6.5	0.0	0.0	0000	5.5	63129
30	24.3	6.5	0.0	0.0	0000	5.2	57725
31	24.8	6.4	0.0	0.0	0000	4.5	65961
Week Aver.	24.7	6.5	0.0	0.0	0000	4.9	62601

MILE 2.5

August, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
2	25.0	6.6	0	0	0	4.4	58600
3	24.9	6.5	0	0	0	3.9	58426
4	24.5	6.5	0	0	0	3.7	57820
6	24.1	6.4	0	0	0	3.9	55275
7	23.8	6.4	0	0	0	3.9	52751
Average	24.5	6.5	0	0	0	4.0	56574
9	24.2	6.4	0.1	1.5	1169	4.4	51450
10	25.0	6.5	0	0	0	3.9	41824
11	25.5	6.5	0	0	0	2.7	27791
13	25.0	6.4	0	0	0	4.4	43289
14	25.0	6.4	0	0	0	4.4	50505
Average	24.9	6.4	0		234	4.0	42972
16	23.0	6.3	0	0	0	5.7	54059
17	24.0	6.3	0	0	0	5.1	47802
18	24.1	6.4	0	0	0	4.5	44622
20	24.1	6.4	0	0	0	3.9	42245
21	24.5	6.4	0	0	0	4.7	50657
Average	23.9	6.4	0		0	4.8	47877
23	24.5	6.5	0	0	0	3.6	34337
24	23.5	6.5	0.2	1.9	1972	4.6	45365
25	23.2	6.5	0	0	0	4.3	46810
27	22.8	6.5	0.4	4.7	4139	4.0	41388
28	Storm: no samples						
Average	23.5	6.5	0.1		1528	4.1	41975
30	22.0	6.5	0.1	1.3	2080	2.5	52000
31	21.3	6.5	0.9	10.6	13532	2.6	39091

MILE 2.5

September, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
1	21.0	6.5	0.9	1.01	11203	2.7	33610
3	21.5	6.4	0.5	5.1	5578	2.5	27888
4	21.9	6.5	0.2	2.3	2457	2.8	34401
Average	21.5	6.5	0.5		6970	2.6	37398
6	21.0	6.5	0.1	0.9	1083	2.4	25997
7	21.5	6.4	0.1	1.1	1153	2.9	33443
8	22.1	6.4	0.1	0.9	1158	3.3	38231
10	22.0	6.5	0.1	1.4	1062	2.9	30786
11	22.0	6.5	0.1	0.9	1089	2.8	30481
Average	21.7	6.5	0.1		1109	2.9	31788
13	21.0	6.5	0	0.4	0	2.4	28970
14	21.0	6.5	0.1	1.6	1412	2.6	36710
15	22.2	6.5	0.0	0.0	0	2.4	37116
17	21.1	6.6	1.2	13.4	18623	2.7	41901
18	21.0	6.6	0.8	9.3	11080	2.5	34623
Average	21.3	6.5	0.4		6223	2.5	35864
25	18.2	6.5	0.9	9.1		2.0	

GULF ISLAND DAM

May, June, 1971

Date	TEMP.	pH	D.O. ppm	D.O. % Sat.	B.O.D. ppm
May					
6	5.0	6.3	12.7	99.2	3.2
13	10.6	6.5	10.4	93.0	1.8
20	12.8	6.6	8.7	81.8	2.3
27	14.2	6.7	6.4	61.8	2.4
31	15.0	6.4	6.4	62.7	
June					
1	16.0	6.5	6.6	66.4	
2	16.0	6.4	5.8	57.5	
3	15.5	6.7	5.7	56.4	3.8
4	17.1	6.5	5.5	56.6	
5	17.0	6.4	5.2	53.4	2.4
7	18.1	6.4	4.6	48.7	
8	19.2	6.4	4.4	46.5	
9	20.3	6.4	4.4	47.7	
10	19.6	6.5	3.6	38.8	3.5
11	20.0	6.4	3.2	34.9	
12	20.0	6.4	2.8	30.3	3.2
14	20.6	6.4	3.0	33.0	
15	20.8	6.4	2.9	32.3	
16	20.5	6.3	1.9	20.8	
17	20.5	6.4	1.7	18.7	3.2
18	21.1	6.3	1.2	13.4	
19	21.5	6.5	2.1	23.8	4.0
21	22.1	6.3	1.0	11.6	
22	23.5	6.4	1.2	13.9	
23	24.0	6.4	0.7	8.6	
24	23.7	6.5	0.3	3.5	4.2
25	24.5	6.4	0.4	4.6	
26	23.9	6.5	0.6	7.5	6.6
28	23.1	6.3	0.2	2.6	
29	24.0	6.3	0.0	0.0	
30	24.1	6.3	0.2	2.2	

GULF ISLAND DAM

July, 1971

Date	TEMP. C	pH	D.O. ppm	D.O. % Sat.	B.O.D. ppm
1	23.5	6.4	0.2	2.3	7.1
2	24.41	6.3	0.1	1.5	
3	24.91	6.5	0.3	3.4	6.1
5	24.82	6.4	0.8	8.8	
6	23.65	6.4	0.1	1.3	
7	24.31	6.4	0.3	4.0	
8	24.8	6.5	0.3	3.6	3.8
9	25.04	6.4	0.6	6.8	
10	24.19	6.5	0.5	6.1	4.3
12	24.90	6.5	0.4	5.2	
13	24.75	6.5	0.5	5.8	
14	24.0	6.5	0.1	1.3	
15	24.0	6.5	0.5	5.9	3.9
16	24.05	6.5	0.3	3.5	
17	23.48	6.4	0.7	8.4	
19	24.02	6.5	0.4	5.1	
20	23.55	6.5	0.5	5.5	
21	23.90	6.5	0.5	6.0	
22	23.7	6.5	0.6	7.0	4.3
23	23.45	6.5	0.1	1.4	
24	23.45	6.5	1.2	14.3	4.6
26	24.16	6.5	0.8	9.2	
27	23.95	6.5	0.3	3.5	
28	24.16	6.4	0.4	4.9	
29	24.1	6.6	0.7	8.2	3.5
30	24.11	6.5	0.6	6.6	
31	24.10	6.5	0.7	8.5	4.6

GULF ISLAND DAM

August, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	B.O.D. ppm
2	24.17	6.4	0.3	3.8	
3	2415	6.4	0.2	2.0	
4	24.22	6.4	0.3	3.1	
5	24.2	6.4	0.5	5.9	3.8
6	24.30	6.4	0.4	4.3	
7	24.15	6.3	0.3	3.1	4.7
9	23.74	6.4	0.4	5.0	
10	23.75	6.3	0.6	0.9	
11	23.40	6.4	0.3	3.6	
12	24.0	6.4	0.0	0.0	3.8
13	24.13	6.4	0.7	7.8	
14	24.19	6.5	0.7	7.7	2.5
16	23.55	6.5	0.7	8.4	
17	23.70	6.4	0.6	615	
18	23.65	6.4	0.7	8.2	
19	23.6	6.5	0.4	4.7	3.6
20	23.41	6.3	0.3	3.3	
21	23.62	6.5	0.9	10.0	4.0
23	23.58	6.5	0.4	4.9	
24	23.09	6.4	0.5	5.3	
25	22.90	6.4	0.5	6.0	
26	22.7	6.6	1.2	13.7	3.5
27	22.55	6.4	0.8	8.8	
28	22.25	6.5	0.5	6.0	3.5
30	22.19	6.4	0.5	5.8	
31	21.90	6.4	0.5	5.3	

GULF ISLAND DAM

September, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	B.O.D. ppm
1	21.58	6.4	0.8	8.5	
2	21.3	6.6	0.6	6.7	2.6
3	20.30	6.4	0.8	9.0	
4	20.47	6.5	0.9	9.5	2.6
6	20.87	6.5	2.4	26.4	
7	20.65	6.4	1.5	16.9	
8	20.22	6.4	1.4	15.1	
9	21.0	6.5	0.7	7.8	2.3
10	21.57	6.5	1.3	14.6	
11	21.08	6.5	1.4	15.6	2.1
13	21.03	6.4	0.8	8.8	
14	20.98	6.5	0.8	8.3	
15	20.96	6.4	0.7	7.5	
16	20.9	6.4	0.7	7.8	2.3
17	21.82	6.6	1.6	18.6	
18	20.87	6.5	1.0	10.7	2.6
20	20.41	6.5	0.9	9.6	
21	20.34	6.4	0.1	1.3	
22	20.12	6.5	0.1	1.1	
23	19.9	6.6	0.1	1.1	2.3
24	19.39	6.4	0.2	1.6	
25	19.11	6.5	0.4	4.0	2.6

DEER RIPS DAM

May, June, 1971

Date	TEMP. C	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/d	B.O.D. ppm	B.O.D. lbs/d
May							
6	5.7	6.3	13.2	104.8		3.0	
13	10.6	6.6	11.1	99.3		1.7	
20	12.2	6.6	9.5	88.3		2.1	
27	14.2	6.7	6.7	64.7		2.1	
29	14.5		7.6	88.8			
31	15.0	6.5	6.6	64.6	211972	2.9	93140
June							
1	15.6	6.4	6.5	64.4	180044	2.0	55398
2	16.0	6.4	5.8	58.2	144397	3.0	74688
3	15.0	6.6	5.5	53.9	128337	3.8	88669
4	17.0	6.7	5.3	54.1	119955	2.3	52056
5	17.5	6.4	5.3	55.0	116812	2.4	52896
Week Aver.	16.0	6.5	5.8		150253	2.9	69475
7	18.0	6.5	5.0	52.4	101305	2.4	48626
8	18.5	6.5	3.9	41.6	82173	2.5	52675
9	19.2	6.5	3.8	40.2	103003	2.7	73186
10	18.9	6.5	3.6	38.3	96999	3.3	88915
11	20.0	6.4	3.0	32.7	64503	3.0	64503
12	20.5	6.4	2.7	30.0	54416	3.2	64493
Week Aver.	19.2	6.5	3.7		83733	2.9	65398
14	20.3	6.5	2.9	31.7	51256	2.8	49490
15	20.6	6.5	3.0	33.2	52380	2.8	48888
16	20.2	6.4	1.7	18.3	28582	3.2	53802
17	20.0	6.3	1.6	17.4	26039	3.2	52077
18	21.5	6.3	1.2	13.5	17912	3.5	52245
19	22.0	6.4	1.4	15.8	21048	4.9	73666
Week Aver.	20.8	6.4	2.0		32870	3.4	55129
21	22.5	6.4	0.9	10.7	13337	5.1	75577
22	23.0	6.4	1.8	20.1	27158	4.9	73931
23	22.2	6.3	0.3	3.8	4801	5.5	88022
24	22.0	6.4	0.2	2.3	3093	5.2	80413
25	24.5	6.4	0.1	1.2	1460	4.9	71560
26	24.5	6.4	0.0	0.0	0000	6.1	94666
Week Aver.	23.1	6.4	0.55		8308	5.3	80695
28	23.0	6.3	0.0	0.0	0000	5.8	84077
29	23.2	6.3	0.0	0.0	0000	8.6	105660
30	25.0	6.4	0.0	0.0	0000	7.9	97913

DEER RIPS DAM

July, 1971

Date	TEMP. C	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/d	B.O.D. ppm	B.O.D. lbs/d
July							
1	23.4	6.4	0.0	0.0	0000	7.5	91335
2	24.5	6.3	0.0	0.0	0000	7.2	104760
3	24.5	6.4	0.0	0.0	0000	6.1	137403
Week Aver.	23.9	6.4	0.0	0.0	0000	7.2	103525
5	24.2	6.3	0.0	0.0	0000	6.5	86866
6	24.5	6.4	0.0	0.0	0000	8.4	103656
7	24.8	6.4	0.0	0.0	0000	6.5	73554
8	23.7	6.4	0.0	0.0	0000	4.8	53803
9	24.2	6.5	0.0	0.0	0000	5.6	63672
10	25.0	6.4	0.0	0.0	0000	5.2	62770
Week Aver.	24.6	6.4	0.0	0.0	0000	6.2	74054
12	25.0	6.5	0.0	0.0	0000	3.8	40341
13	24.8	6.4	0.0	0.0	0000	4.6	47596
14	24.1	6.4	0.0	0.0	0000	4.5	51894
15	23.8	6.4	0.0	0.0	0000	3.6	39190
16	23.5	6.4	0.0	0.0	0000	5.7	62968
17	24.0	6.4	0.0	0.0	0000	6.8	83545
Week Aver.	24.3	6.4	0.0	0.0	0000	4.8	54256
19	24.1	6.5	0.0	0.0	0000	5.3	65402
20	23.9	6.5	0.3	3.0	375	4.8	60010
21	24.2	6.4	0.2	2.1	271	3.8	51604
22	23.0	6.5	0.0	0.0	0000	3.9	45388
23	23.2	6.4	0.0	0.0	0000	5.8	59386
24	24.0	6.5	0.0	0.0	0000	5.0	57660
Week Aver.	23.7	6.5	0.1	0.8	108	4.8	56575
26	24.0	6.4	0.0	0.0	0000	4.5	61835
27	24.0	6.5	0.0	0.0	0000	4.6	58498
28	24.8	6.5	0.2	2.9	2296	3.7	42469
29	23.6	6.4	0.0	0.0	0000	4.4	51212
30	24.0	6.4	0.0	0.0	0000	5.0	55505
31	24.1	6.4	0.0	0.0	0000	4.3	63029
Week Aver.	24.1	6.4	0.03	0.5	383	4.4	55425

DEER RIPS DAM

August, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
2	24.9	6.4	0.1	0.7	1331	4.5	59931
3	24.1	6.5	0.0	0.0	0	4.0	59924
4	24.5	6.5	0.16	0.9	2500	4.6	71884
5	23.8	6.5	0.2	2.3	3505	3.2	56042
6	24.0	6.4	0.0	0.0	0	3.6	51023
7	24.8	6.4	0.0	0.0	0	4.1	55457
Average	24.4	6.5	0.1		1223	4.0	59044
9	24.5	6.4	0.0	0.0	0	4.5	52619
10	24.0	6.4	0.0	0.0	0	4.6	49330
11	23.5	6.3	0.0	0.0	0	4.3	44260
12	23.1	6.4	0.0	0.0	0	3.8	41572
13	24.5	6.4	0.2	2.4	2059	3.0	30879
14	24.2	6.4	0.0	0.0	0	3.0	34434
Average	24.0	6.4	0.0		343	3.9	42183
16	24.1	6.5	1.2	14.2	11381	2.5	23710
17	24.2	6.4	0.7	8.2	6564	2.8	26256
18	24.5	6.4	0.3	3.4	2975	3.0	29750
19	23.2	6.5	0.0	0.0	0	3.5	33950
20	23.9	6.3	0.0	0.0	0	4.2	45494
21	24.2	6.5	0.0	0.0	0	3.5	37723
Average	24.0	6.4	0.4		3487	3.3	32814
23	23.0	6.4	0.1	0.6	954	3.7	35291
24	23.1	6.4	0.6	6.7	5917	2.4	23669
25	23.1	6.4	0.5	5.9	5443	2.4	26126
26	21.9	6.5	0.1	1.1	992	3.4	33714
27	22.5	6.5	0.1	0.7	1035	3.2	33110
28	22.0	6.5	0.1	1.4	1164	3.4	39573
Average	22.6	6.5	0.3		2585	3.1	31915
30	22.5	6.4	0.2	2.1	4160	3.4	70720
31	22.0	6.4	0.3	2.8	4511	2.8	42099

DEER RIPS DAM

September, 1971

Date	Temp.	pH	D.O. ppm	D.O. % Sat.	D.O. lbs/day	B.O.D. ppm	B.O.D. lbs/day
1	21.5	6.4	0.5	6.0	6224	2.4	29874
2	20.3	6.7	0.3	3.3	3411	2.4	27288
3	20.7	6.4	0.5	5.5	5578	2.3	25657
4	21.0	6.4	0.3	2.9	3686	2.2	27029
Average	21.3	6.5	0.3		4595	2.6	37111
6	20.9	6.4	0.1	1.6	1083	1.8	19498
7	20.6	6.4	0.7	8.1	8072	2.1	24217
8	21.0	6.4	0.2	2.7	2317	2.1	24329
9	20.9	6.4	0.0	0.0	0	2.4	27288
10	22.0	6.4	0.8	9.3	8493	1.9	20170
11	21.5	6.5	0.1	0.6	1089	2.3	25038
Average	21.2	6.4	0.3		3509	2.1	23423
13	21.0	6.5	1.3	14.5	15692	1.8	21728
14	21.0	6.5	1.2	13.4	16943	2.1	29650
15	21.4	6.4	0.7	7.7	10826	1.7	26291
16	20.5	6.6	0.6	6.6	10605	1.8	31835
17	21.2	6.5	0.7	7.7	10863	2.0	31038
18	21.0	6.5	0.4	4.0	5540	1.7	23543
Average	21.0	6.5	0.8		11745	1.9	27348
20	20.6	6.5	0.9	10.1	10330	2.3	26399
21	20.5	6.5	0.5	5.3	5470	2.0	21880
22	20.0	6.5	0.7	7.9	8261	1.9	22422
23	19.0	6.6	0.5	5.3	6036	1.8	21728
24	19.2	6.4	0.8	8.8	8881	1.9	21092
25	19.2	6.5	1.6	17.3	19227	1.2	14420
Average	19.8	6.5	0.8		9700	1.9	21320